

REMARKS

Claims 46-57, 60-64 and 66-70 are pending in this application. Claims 46-47, 49-50, 53, 60, 64, and 66-70 have been amended herein. Claims 1-41 have been cancelled, and claims 42-45, 58-59, and 65 have been withdrawn. Applicants reserve the right to pursue cancelled or withdrawn subject matter in continuing applications. Support for the amendments to the claims can be found generally for example in the specification as filed at paragraph [0072], pages 17 and 18, and paragraphs [0079] to [00102], pages 21 to 26. No new matter has been added by these amendments.

Information Disclosure Statement

The Examiner indicated that references C2-C4 in the IDS filed March 29, 2006 and references C5-C108 in the IDS filed May 22, 2006 were not considered because they were not compliant with 37 CFR 1.98 (b)(5). On October 19, 2006, Applicants submitted modified Forms PTO-1449 in compliance with 37 CFR 1.98 (b)(5) which are corrected versions of the Information Disclosure Statements submitted to the U.S. Patent & Trademark Office on March 29, 2006 and May 22, 2006. Applicants respectfully request that the Examiner fully consider the completely cited information, along with any other information, in reaching a determination concerning the patentability of the present claims, and sign the PTO-1449 form, previously submitted on October 19, 2006, to evidence that the cited information has been fully considered by the Patent & Trademark Office during the examination of this application.

Rejection under 35 U.S.C. §112, 2nd Paragraph

The Examiner rejected claims 46-57, 60-64 and 66-70 under 35 U.S.C. §112, 2nd paragraph as being incomplete for omitting essential elements, namely the constituents of the complex in each step of the claimed method. To expedite prosecution and further business interests, claims 46-57, 60-64 and 66-70 have been amended to clarify the complex constituents.

The Examiner rejected claims 46, 47, 60 and 69 under 35 U.S.C. §112, 2nd paragraph as being indefinite in view of the phrase “capable of.” To expedite prosecution and advance business interests, claim 46, 47, 60 and 69 have been amended to delete the phrase “capable of”

Accordingly, Applicants maintain that amended claims 46-57, 60-64 and 66-70 comply with 35 U.S.C. §112, 2nd paragraph and request that this rejection be withdrawn.

Rejection under 35 U.S.C. § 103(a)

The Examiner has rejected claims 46-57, 60-64 and 66-70 under 35 U.S.C. § 103(a). The Examiner bears the burden of establishing a prima facie case of obviousness (Section 103). Section 2143 of the MPEP states “To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.”

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the Applicants’ disclosure. In re Vaeck, 947 F. 2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).)

The Examiner has rejected claims 46-57, 60-64 and 66-70 under 35 U.S.C. § 103(a) as being unpatentable over Griffin et al., US Patent No. 5,756,291 (“Griffin”). Applicants maintain that the Griffin does not render the present invention obvious.

The Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the negative-positive aptamer selection protocol of Griffin by designating the bound target-target partner/analog complex as the “target molecule” and the unbound target or target partner/analog by itself as the “non target molecule” for the purpose of selecting aptamers that facilitate the complex formation. The Examiner further states, “Most relevantly, Griffin disclose exemplary approaches involving the use of multiple selections to derive aptamers with highly specific properties, as an example, a round of selection involves selecting those oligonucleotides that bind to a complex between a target, thrombin, and a target partner, thrombomodulin.” (See Griffin col. 24, lines 1-13).

The bridging sentence between columns 23 and 24 of Griffin makes it clear that the purpose of the selection scheme referred to by the Examiner immediately above is to select aptamers that block thrombin’s activity towards fibrinogen and the thrombin receptor but do not

affect the binding of thrombomodulin and activity towards Protein C. Lines 4-13, column 24, of Griffin teach “In the first, example, a pool of oligonucleotides is subjected to two rounds of selection. The first round involves selecting oligonucleotides that bind to thrombin, the second round involves selecting those oligonucleotides that also bind to a complex between thrombin and thrombomodulin. Aptamers derived from such a dual selection strategy will be directed against regions of thrombin apart from the thrombomodulin binding site and will be unlikely to interfere with thrombomodulin binding and activity against Protein C.” Contrary to the Examiner’s contention, the exemplary approach indicated in Griffin is not for the purpose of selecting aptamers that facilitate complex formation rather it is for selecting aptamers that block thrombin activity towards fibrinogen while not interfering with thrombin binding to thrombomodulin and its activity towards Protein C.

Griffin, as acknowledged by the Examiner, does not disclose the claimed aptamer selection methods. Contrary to the Examiner’s contention the methods of the present claims are not simple modifications of the negative-positive aptamer selection protocol where the bound target-target partner analog complex is designated as the “target molecule” and the unbound target or target partner/analog by itself is designated as the “non target molecule”. In fact, the selection methods of independent claims 46 and 47, do not use a target-target partner/analog complex during selection, rather the claimed methods use a target and a target partner and/or target partner analog under conditions that disfavor efficient binding between the target and target partner and/or target partner analog. This limitation is not taught or suggested by the Griffin. Accordingly, as Griffin does not teach all the claim limitations of claims 46 and 47, and the Examiner has not established a prima facie case of obviousness.

Step e) and step d) of the methods of independent claims 60 and 69, respectively, both require contacting nucleic acids bound to the target-target partner or target-target partner analog complex with an agonist competitor and amplifying the resulting eluted nucleic acids, thereby identifying aptamers that increase the affinity of a target for a target partner. This limitation is not taught or suggested by Griffin. Accordingly, as Griffin does not teach all the claim limitations of claims 60 and 69, the Examiner has not established a prima facie case of obviousness.

Step a) of the method of independent claim 66 requires contacting a candidate mixture of nucleic acids with a complex of a target and an agonist competitor. This limitation is not taught

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or suggested by Griffin. Accordingly, as Griffin does not teach or suggest all the claim limitations of claim 66. As such, the Examiner has not established a prima facie case of obviousness.

Applicants maintain that Griffin is not sufficient to render any of independent claims 46, 47, 60, 66 or 69 obvious. Accordingly, Applicants also maintain that Griffin is insufficient to render claims that dependent from any of claim 46, 47, 60, 66 or 69 obvious. Applicants therefore respectfully request that the Examiner withdraw this rejection.

CONCLUSION

On the basis of the foregoing, Applicants respectfully submit that the pending claims are in condition for allowance. If there are any questions regarding these amendments and remarks, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted,

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